

REMARKS

The Office Action mailed June 30, 2008, has been received and carefully considered. Claim 1 has been amended. To the best of the undersigned attorney's information and belief, these changes contain no new matter for the reasons given in the remarks which follow.

Claims 1-3, 18 and 19 are active in the Application and are submitted to be in allowable condition. Claim 1 is independent.

Claims 4-17 have been withdrawn as non-elected in responding to a restriction requirement. When the Examiner finds elected claims 1-3, 18, and 19 allowable, Applicant hereby authorized the Examiner to cancel withdrawn, non-elected claims 4-17, without disclaimer of the subject matter thereof and without prejudice to the filing of a Continuation Application directed thereto, in an Examiner's Amendment.

Claim Changes and Support

Claim 1 has been amended to recite, "supplying an H₂-based cleaning gas into the reaction chamber and generating another plasma in the reaction chamber".

Support for this change is found in the Application as-filed on page 10, lines 8-11.

I. The rejection of claims 1-3 under 35 U.S.C. §102(b) as anticipated by Tsai et al. (US 6,261,977) is respectfully traversed.

The present invention is directed to a process for cleaning a semiconductor manufacturing system (see claims 1-3) and to a method of manufacturing a semiconductor device whose steps include the step of carrying out the cleaning process of claim 1 (see claims 18 and 19).

Claim 1 is directed to a first embodiment of the invention in which a fluoride-based cleaning gas, such as NF₃ (see claim 2), is supplied into a reaction chamber and

a plasma is generated in the reaction chamber. The cleaning process of claim 1 as amended now specifies use of a second cleaning gas, an H₂-based cleaning gas, and the process is now recited as including the step of supplying an H₂-based cleaning gas into the reaction chamber and generating another plasma in the reaction chamber. Supplying and plasma-exciting these two types of gasses is described in more detail in Applicant's Specification on page 9, line 5, through page 10, line 3.

The disclosure of Tsai et al. does not teach or suggest a process including "supplying an H₂-based cleaning gas into the reaction chamber and generating another plasma in the reaction chamber". In view of this clear distinction, Applicant respectfully submits that the present invention according to claims 1-3 is distinguishable so that the disclosure of Tsai et al. does not anticipate the present invention according to claims 1-3, and this ground of rejection should be withdrawn.

Moreover, Applicant submits that one of ordinary skill in this art would find no teaching or suggestion in the disclosure of Tsai et al. which would lead or motivate the artisan to modify the process disclosed in Tsai et al. to include Applicant's step of "supplying an H₂-based cleaning gas into the reaction chamber and generating another plasma in the reaction chamber". In view of this, Applicant submits that the disclosure of Tsai et al. does not render obvious the present invention as recited in claims 1-2.

II. The rejection of claim 18 under 35 U.S.C. §102(b) as anticipated by or, in the alternative, under 35 U.S.C. §103(a) as obvious over Tsai et al. (US 6,261,977) in view of Fujisato et al. (US 2003/0119328) is respectfully traversed.

Since a combination of two references is not a proper basis for rejecting a claim as anticipated under 35 U.S.C. §102(b), Applicant has treated the 102(b) portion of this dual rejection as if claim 18 has been rejected as anticipated by either the disclosure of Tsai et al. or the disclosure of Fujisato et al.

1. Method claim 18 includes the step of “carrying out a cleaning process according to claim 1; ...”

The disclosure of Tsai et al. does not teach or suggest a process including “supplying an H₂-based cleaning gas into the reaction chamber and generating another plasma in the reaction chamber”. In view of this clear distinction, Applicant respectfully submits that the present invention according to claim 18 is distinguishable so that the disclosure of Tsai et al. does not anticipate the present invention according to claim 18 and this ground of rejection should be withdrawn.

2. Further, the disclosure of Fujisato et al. does not teach or suggest a process including “supplying an H₂-based cleaning gas into the reaction chamber and generating another plasma in the reaction chamber”. In view of this clear distinction, Applicant respectfully submits that the present invention according to claim 18 is distinguishable so that the disclosure of Fujisato et al. does not anticipate the present invention according to claim 18 and this ground of rejection should be withdrawn.

3. Moreover, the Examiner considers that “...it would have been obvious to one skilled in the art to substitute one method for the other to achieve the predictable results ...”. Applicant assumes that the Examiner is combining the disclosures of Tsai et al. and Fujisato et al. However, Applicant respectfully submits that, since method claim 18 includes the step of “carrying out a cleaning process according to claim 1; ...”, and since neither Tsai et al. nor Fujisato et al. teach or suggest this step, the combined disclosures of Tsai et al. and Fujisato et al. do not meet Applicant’s claim 18. In view of this, Applicant respectfully submits that no *prima facie* case of obviousness has been made out and this ground of rejection should be withdrawn as well.

III. The rejection of claim 19 under 35 U.S.C. §103(a) as obvious over Tsai et al. (US 6,261,977) in view of Jurgensen (US 6,852,243) is respectfully traversed.

Claim 19 depends from claim 1 and recites “wherein the positioning of the insulating cover in tight contact with the substrate-supporting electrode comprises placing the insulating cover on the substrate-supporting electrode, and clamping the insulating cover to the substrate-supporting electrode by a mechanical element.”

The Examiner acknowledges that Tsai et al. fails to disclose the limitations of claim 19. The Examiner therefore relies on the disclosure of Jurgensen for these features.

However, Applicant respectfully submits that the disclosure of Jurgensen does not teach or suggest a process including “supplying an H₂-based cleaning gas into the reaction chamber and generating another plasma in the reaction chamber” as recited in independent claim 1 from which claim 19 depends. Thus, the disclosure of Jurgensen does not supply the disclosure missing from Tsai et al. In view of this clear distinction, Applicant respectfully submits that the combined disclosures of Tsai et al. and Jurgensen do not meet claim 19 so that no *prima facie* case of obviousness has been made out against claim 19 and this ground of rejection should be withdrawn.

CONCLUSION

In view of the foregoing amendments and remarks, Applicant submits that active claims 1-3, 18 and 19, and the Application are in condition for allowance.

Reconsideration and passage of this case to issue are therefore requested.

Should the Examiner consider that a conference would help to expedite the prosecution of this Application, the Examiner is invited to contact the undersigned to arrange for such an interview.